

MARY LYNN TILKINS

3012 Niagara Falls Boulevard
North Tonawanda, New York 14120
(716) 743-5442

EDUCATION

State University of New York College at Fredonia
Bachelor of Science in Recombinant Gene Technology, 1989

EMPLOYMENT

Staff Scientist
Invitrogen Corporation
Research & Development
3175 Staley Road
Grand Island, New York 14072
September 2000 - present

Laboratory Technician
Roswell Park Memorial Institute
Hematologic Oncology Department
Buffalo, New York
July 1989 - July 1990

Scientist
Life Technologies, Inc.
October 1994 – September 2000

Associate Scientist III
Life Technologies, Inc.
July 1990 – October 1994

NEW PRODUCT DEVELOPMENT

Principle or co-inventor of CHO-S-SFM II, CD CHO Medium, KNOCKOUT™ Serum Replacement (patent-pending), KNOCKOUT™ D-MEM and CD Hybridoma Medium, as well as a variety of custom CHO formulations. Extensive applications data, marketing literature, presentations and publications supported all product development efforts. Additionally, was instrumental in the successful transfer and scale-up of these products to manufacturing.

METHODOLOGY DEVELOPMENT

Have made significant contributions to the Invitrogen business through methodology development. Devised (perhaps the first) protocol for the serum-free growth of Embryonic stem (ES) cells. Developed a novel method for performance testing CD Hybridoma Medium using alamar Blue, that was successfully implemented as a testing method in QC. Developed a method by which DHFR negative CHO cells could grow in CD CHO Medium. Showed that a plant hydrolysate could replace animal-derived components, and that insulin could be replaced by zinc sulfate in media (CHO-III-PFM). Additionally, brought transfection technology and training to GI R&D.

OTHER TECHNICAL EXPERIENCE

ES Cell Differentiation Studies, Mammalian, Hybridoma and Invertebrate Cell Culture, Liquid and Dry Powder Media Development/Optimization, Bioreactor Studies (3-15L volumes), Microcarrier Culture, Artificial Capillary Bioreactor Studies, Enzyme-Linked Immunosorbent Assays (ELISA), Immunofluorescence Studies, Protein Assays, Gel Electrophoresis, RNA Isolation, Protease Inhibition Assays, Photomicrography

CUSTOMER SUPPORT/BUSINESS DEVELOPMENT

Have transferred multiple performance assays to QC, and continue to provide technical assistance regarding feeder and ES cell culture techniques. Have worked closely with QC, Purchasing, Business Management, Process

Engineering and Technical Services to address issues that have jeopardized product availability or performance. Have supported Tech Services through training on new products, by providing applications data, information and protocols for their database, and by customer interaction as needed in areas of expertise. Was an instructor of a Transfection Workshop presented to R&D and Tech Service Employees in May 1999. Have made multiple presentations to GI employees in an effort to educate and excite them about new products, including KNOCKOUT product presentations at All-Employee Meetings and through the Products & Partners Manufacturing Training sessions. Have supported Marketing function by providing competitive audit data, technical support for ES cell products and primary cell transfections, brochure info, *Focus*, Spectrum, booth duty at trade shows, field visits, poster presentations, customer sampling and telephone surveys. Recently lead market sensing efforts in the field of Stem Cell Biology, with guidance from Business Management. Have made numerous scientific presentations to ES cell customers, including a seminar entitled "Optimal Culture & Maintenance of ES Cells" given at Cold Spring Harbor in 2000.

AWARDS

Co-recipient of two (LTI) David L. Coffin Awards for Innovation. Have received numerous R&D Awards including Teamwork Award (1995), Employee of the Year (1996), Publication Award (1997), and Product Development Team Award (1997). In February 2000, was recognized with the Grand Island Site Annual Award for Significant Individual Effort.

TRAINING

Internal Order Entry 1993
Oral Presentation Skills 1993
PCR Workshop 1994
Custom Primer Entry 1995
Zengler-Miller 1994/1995
Tech Services 1997
Quantitative RNA Techniques 1999
R&D Finance Course 1999
Targeted Selection 2002

ORGANIZATIONAL SKILLS

- Project Team Leader for KNOCKOUT™ SR and KNOCKOUT™ D-MEM ES cell products
- Training/supervision of interns, grad students and new employees
- Have helped R&D Department achieve and maintain ISO-9001 standards
- Member of the GIBCO Events and Recognition Committee (GIBCOwear Chairperson)
- R&D Recognition Issues Liaison

PUBLICATIONS

Ohki, E.C., Tilkins, M.L., Ciccarone, V.C., and Price, P.J. *Improving the transfection efficiency of post-mitotic neurons*. **J Neurosci Methods**, 112(2), pp. 95-99, 2001.

Gorfien, S.G., Godwin, G., Samrock, R., and Tilkins, M.L. *Hybridoma Growth and Antibody Production in a Protein-Free, Chemically Defined Medium*. **Focus** 21(2), pp. 30-31, 1999.

Tilkins, M.L., Hawley-Nelson, P. and Ciccarone, V. *Transfection of Mammalian and Invertebrate Cells Using Cationic Lipids*. **Cell Biology: A Laboratory Handbook**, 2nd edition, Vol. 4, pp. 145-154, 1998.

Goldsborough, M.D., Tilkins, M.L., Price, P.J., Lobo-Alfonso, J., Morrison, J., Stevens, M., Meneses, J., Pedersen, R., Koller, B. and Latour, A. *Serum-Free Culture of Murine Embryonic Stem (ES) Cells*. **Focus** 20(1), pp. 8-12, 1998.

Battista, P.J., Soderland, C., Tilkins, M.L., and Gorfien, S.G. *Serum-Free Culture of Human Venous, Arterial, and Microvascular Endothelial Cells Using a Low-Protein, Serum-Free Medium*. American Biotech. Lab., October 1996.

Tilkins, M.L., Hawley-Nelson, P. and Battista, P.J. *Transient Transfection of Endothelial Cells*. Focus 16(4), pp. 117-119, 1994.

Battista, P.J., Tilkins, M.L., Judd, D.A., Godwin, G.P. and Gorfien, S.F. *Serum-Free Media for the Culture of Chinese Hamster Ovary Cells*. American Biotech. Lab., April 1994, pp. 64-68.

Battista, P.J., Tilkins, M.L., Jayme, D.W. and Gorfien, S.F. *Anchorage-Dependent Growth and Recombinant Protein Production by Chinese Hamster Ovary Cells in Serum-Free Medium*. In: **Animal Cell Technology: Basic and Applied Aspects**, Vol. 6, pp. 325-329, 1994.

Battista, P.J., Tilkins, M.L., Judd, D.A., Gorfien, S.F. and Jayme, D.W. *Chinese Hamster Ovary (CHO) Cell Growth and Recombinant Protein Production in Serum-Free Medium*. In: **Animal Cell Technology: Basic and Applied Aspects**, Vol. 5, pp. 251-257, 1993.

Tilkins, M.L., Judd, D.A., Weiss, S.A. and Gorfien, S.F. *Serum-Free Culture of Chinese Hamster Ovary (CHO) Cells*. Focus 14(3), pp. 95-98, 1992.

Godwin, G., Gorfien, S., Tilkins, M.L. and Weiss, S. *Development of a Low Cost Serum-Free Medium for the Large-Scale Production of Viral Pesticides in Insect Cell Culture*. Proc. Eighth International Conference on Invertebrate and Fish Tissue Culture, pp. 102-110, (M.J. Fraser, Jr., ed.) Tissue Culture Association, Columbia, MD (1991).

Poster presentations not listed.

EXTERNAL ACTIVITIES

Violinist in the St. John de La Salle Folk Group
Beginning violin instructor
Member of the People Animal Lovers Society (PALS)